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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,398	03/18/2002	Toshitada Sato	10059-412US (P26090-01)	2946

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EXAMINER

CANTELMO, GREGG

ART UNIT	PAPER NUMBER
1745	

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/088,398

Applicant(s)

SATO ET AL.

Examiner

Gregg Cantelmo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on July 19, 2000. It is noted, however, that there is no certified copy of the Japanese application provided in the instant application.

### ***Information Disclosure Statement***

3. The information disclosure statement filed March 18, 2002 has been placed in the application file and the information referred to therein has been considered as to the merits.

### ***Drawings***

4. The drawings received March 18, 2002 are acceptable for examination purposes.

### ***Claim Rejections - 35 USC § 102/103***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 00/41256-A (WO '256).

WO '256 discloses of a mixed metal alloy wherein one component of the alloy has an oxygen content in excess of 1.0 wt % with one element in the alloy but not with the other element in the alloy (see pages 52-53). Therefore the total oxygen and content of one element in the alloy is greater than 1.0 wt% and there is no teaching of an oxide in the other metal element and thus the oxygen content in the other metal element is inherently less than 0.5 wt % (as applied to claim 1).

The oxidizing element includes rare earth elements and the metal-rich element includes elements such as Bi, Sb and Sn (pages 52-53). In the list of examples, such alloys include SbTi and SnTi compositions (as applied to claims 2).

The degree of surrounding in claim 3 is unspecified and thus can be a partial surrounding. In the mixture of the alloys above, adjacent elemental components such as a mixture of Sb and Ti will be such that each element is at least partially surrounded by the other element. Further the surrounding need not be limited to surrounding at the surface of the first phase and therefore and

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be a distal surrounding of the alternate particles in the mixture. The prior art inherently having a degree of surrounding of the two constituents in the alloys disclosed on pages 52 and 53 (as applied to claim 3).

Considering that only one of the two elemental phases in the alloys on pages 52 and 53 are disclosed to have an oxygen content and that the other alloy does not include any oxygen, the ratio of the oxygen present in the one phase having such additives relative to the other phase having not having oxygen will be greater than 4 (as applied to claim 4).

7. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. patent No. 6,599,662 (Chiang).

Chiang and WO '256 are drawn to the same invention.

Chiang discloses of a mixed metal alloy wherein one component of the alloy has an oxygen content in excess of 1.0 wt % with one element in the alloy but not with the other element in the alloy (see Example 8). Therefore the total oxygen and content of one element in the alloy is greater than 1.0 wt% and there is no teaching of an oxide in the other metal element and thus the oxygen content in the other metal element is inherently less than 0.5 wt % (as applied to claim 1).

The oxidizing element includes rare earth elements and the metal-rich element includes elements such as Bi, Sb and Sn (Example 8). In the list of examples, such alloys include SbTi and SnTi compositions (as applied to claims 2).

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The degree of surrounding in claim 3 is unspecified and thus can be a partial surrounding. In the mixture of the alloys above, adjacent elemental components such as a mixture of Sb and Ti will be such that each element is at least partially surrounded by the other element. Further the surrounding need not be limited to surrounding at the surface of the first phase and therefore and be a distal surrounding of the alternate particles in the mixture. The prior art inherently having a degree of surrounding of the two constituents in the alloys disclosed in Example 8 (as applied to claim 3).

Considering that only one of the two elemental phases in the alloys in Example 8 are disclosed to have an oxygen content and that the other alloy does not include any oxygen, the ratio of the oxygen present in the one phase having such additives relative to the other phase having not having oxygen will be greater than 4 (as applied to claim 4).

***Allowable Subject Matter***

8. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

With respect to claim 5, none of the prior art of record appear to teach, suggest or render obvious the invention of claim 5 wherein there is both an

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oxygen content and nitrogen content, with  $0 < W_o < 10 \text{ wt\%}$  and  $0 < W_n < 10 \text{ wt\%}$  and  $0.5 \text{ wt\%} \leq W_o + W_n \leq 10 \text{ wt\%}$ .

The various teachings of WO '256 fail to teach or suggest a composition having both oxygen and nitrogen present. The disclosure teaches that the additive X is one of the group including oxygen and nitrogen. Therefore there is a teaching of only having either oxygen or nitrogen present and not both. Even further the scope of the range of the additive elements fails to teach or suggest the range of claim 5.

With respect to claim 6, none of the prior art of record appear to teach, suggest or render obvious the invention of claim 6 wherein the alloy particle further contains at least one selected from the group consisting of fluorine, sulfur and phosphorous and wherein the total of the oxygen content, nitrogen content and the at least one fluorine, sulfur and phosphorous content is 0.5 to 10 wt % in the alloy particle.

WO '256 teaches that the additive X is one of materials including oxygen, nitrogen, phosphorous and fluorine. There is no teaching that the material X is a combination of these materials as recited in claim 6 or that the total content of these materials as recited in claim 6 is held to be within 0.5 to 10 wt% of the alloy particle.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, in particular: USPATs 6090505; 6265111, 6541157,

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6558841, US Patent App. No. 2002/0086207 and WO 2000-24070A are each drawn to negative electrode compositions similar to the claimed invention.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (703) 305-0635. The examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (703) 308-2383. Note that these telephone numbers will change around January 1, 2004. At such time the examiners new telephone number will be (571) 272-1283 and the examiner's supervisor's number will be (571) 272-1292. FAX communications should be sent to FAX number: (703) 872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gregg Cantelmo  
Patent Examiner  
Art Unit 1745

gc



December 8, 2003